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REMARKS

Applicants respectfully request reconsideration of all pending claims.

Claims 1-16, 29-33, and 50-55 are pending. No claims have been amended, no new claims have been added, and no claims have been cancelled.

The Applicants reserve the right to pursue prosecution of any presently excluded claim embodiments in future continuation and/or divisional applications.

Introductory Remarks

The Applicants' pending claims have been rejected primarily over U.S. Patent No. 5,584,863 to Rauch et al., ("Rauch") in the Office Action of February 9, 2005. However, as described in detail below, Rauch does not show or suggest adjusting the amplitude of the applied electromagnetic energy based on the strength of the *applied* electromagnetic energy.

Claim Rejections – 35 U.S.C. § 102(b)

Claims 1, 5-7, 29, 31, 50, 51, 54 and 55 stand rejected as being anticipated by Rauch. In particular, the Office Action states:

"Claims 1, 5-7, 29, 31, 50, 51, 54 and 55 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rauch et al., US 5,584,863. See column 11, line 15 to column 12 at line 5, wherein the meter which detects field strength is constructed to be in the applicator housing and the amplitude is controlled to maintain a desired therapeutic field strength." Office Action of February 9, 2005, page 2.

Applicants respectfully disagree.

Rauch does not show or describe adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy as recited by independent claims 1, 29 and 50, from which claims 5-7, 31, 51, 54 and 55 depend. Instead, Rauch adjusts the electromagnetic energy output based on the output of the *amplifier*, by comparing the amplifier

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output to a reference value. Thus Rauch does not include every element recited by the claims 1, 5-7, 29, 31, 50, 51, 54 and 55.

The Applicants' pending claims recite adjusting the amplitude of the applied electromagnetic energy based on the strength of the measured applied electromagnetic energy. Independent claim 1 recites: "... a detector disposed on said applicator, wherein said detector is configured to measure field strength of the applied electromagnetic energy, and wherein said generator is configured to *adjust the amplitude of said applied electromagnetic energy in response to said measured field strength...*" (emphasis added). Similarly, Independent claim 29 recites: "... a detector configured to: measure the electromagnetic energy *applied by said applicator*, and *produce a response signal in response* to said measured electromagnetic energy; and a second circuit configured to apply electromagnetic energy by *varying the amplitude of said applied electromagnetic energy as a function of said response signal.*" (emphasis added). Finally, Independent claim 50 recites: "...*measuring said applied electromagnetic energy*; producing a *response signal in response* to said measured electromagnetic energy; and applying electromagnetic energy by *varying the amplitude of said applied electromagnetic energy as a function of said response signal...*" (emphasis added). Further, claims 5-7, 31, 51, 54 and 55 depend from independent claims 1, 29 or 50.

Thus, all of the pending claims recite adjusting the amplitude of the *applied* electromagnetic energy based on the strength of the measured *applied* electromagnetic energy. Rauch does not teach adjusting the amplitude of the applied electromagnetic energy based on the strength of the applied electromagnetic energy. In short, Rauch does not show or suggest any feedback adjusting the applied energy based on energy measured at the applicator.

First, Rauch does not measure the *applied electromagnetic energy*. Although the Office Action refers to a meter present in the Rauch device, this meter only measures the electromagnetic field strength *within the housing*, and not the applied electromagnetic energy, as recited in the claims. See Rauch, col. 11, lines 16-17 ("Meter 32 displays electromagnetic field strength *within the housing*," emphasis added.) Rauch's meter measures the field strength within the housing

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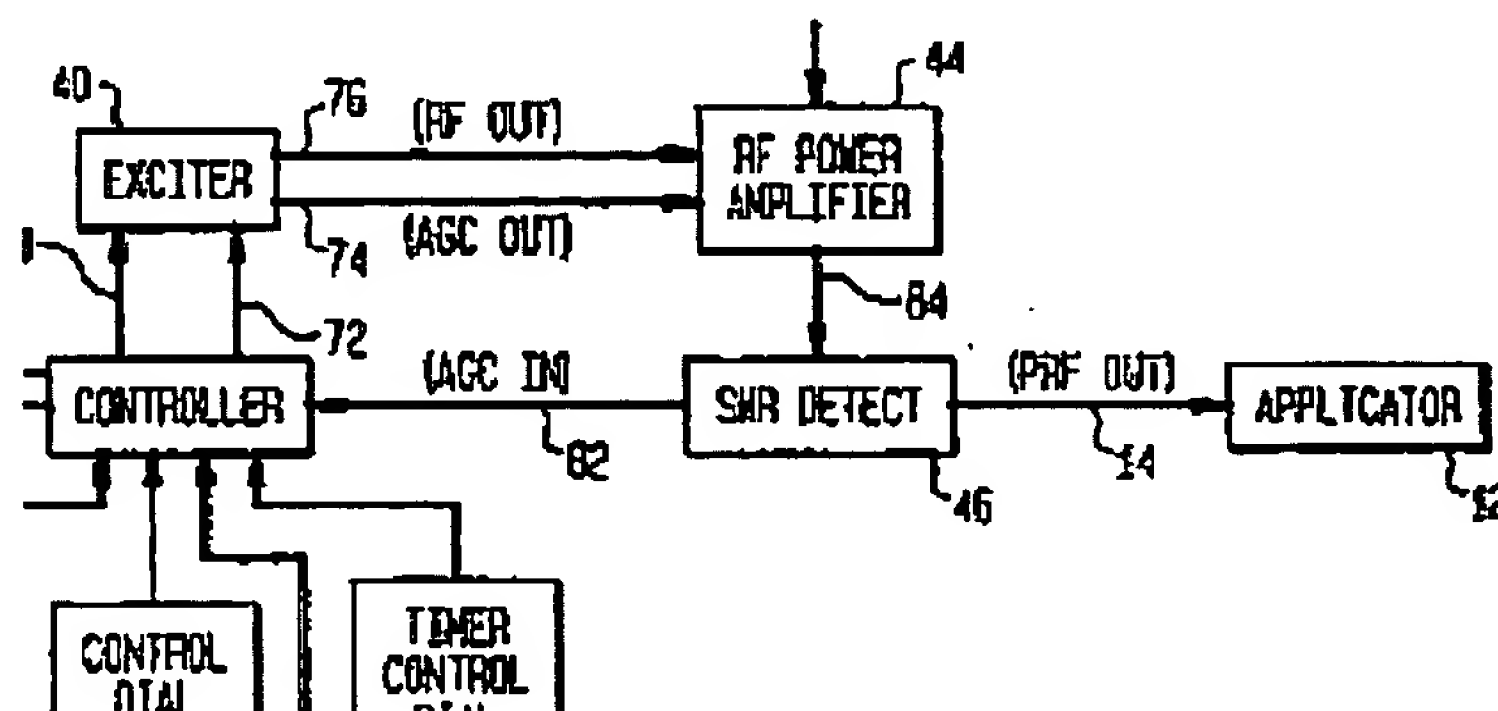
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before the energy has been converted to a dose of RF energy to be transmitted. The applied electromagnetic energy may be quite different from the field strength within the housing.

Furthermore, Rauch does not adjust the applied electromagnetic energy based on a measurement of the applied electromagnetic energy. Even assuming, *arguendo*, that the meter of Rauch is capable of measuring the applied electromagnetic energy, this meter is not connected to any power control circuit or structure, and only displays the power delivered to the applicator to provide visual "assurance" that the electromagnetic signal is being delivered. According to Rauch:

"Meter 32 displays electromagnetic field strength within the housing. It has been determined that a given level of field strength will assure performance with minimal distortion of the SWR current level inputted through coaxial cable 14 and, thereby, will provide further assurance of delivery of PRF signals through the lower treatment surface of housing ..." Rauch, col. 11, lines 16-24.

Rauch does not adjust the amplitude of the applied electromagnetic energy in response to any signal generated by the meter, or other sensor on the applicator. There is no feedback from the meter to any other component of Rauch's electrotherapeutic system. This can be seen schematically in Figure 2 of Rauch (a portion of which is shown below), showing a block diagram of Rauch's system:



No information flows from the applicator 12 to the amplifier 44. Thus, Rauch does not teach control of the amplitude of the applied electromagnetic energy based on an output signal from Rauch's meter.

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According to the Office Action, Rauch shows that “the amplitude is controlled to maintain a desired therapeutic field strength.” However, Rauch does not control the amplitude of the applied electromagnetic energy based on a measurement of the applied energy, as recited by the claims. Instead, Rauch teaches something quite different. Rauch teaches that the electromagnetic energy output from the amplifier is detected by a standing-wave-ratio detection (SWR) circuit which compares the “amplitude, and thereby impedance, of PRF signals outputted from amplifier 44, the comparison being made to a reference value therefor.” Rauch, col. 9, lines 28-33. Thus, the output of the *amplifier* (not the applicator) is measured and compared to a reference value, so that it may modify the amplifier output by feeding back into the amplifier. Rauch does not modify the energy output based on a measurement at the *applicator*, but instead at the *amplifier*.

Controlling or modifying the output of the amplifier by measuring the amplifier output is not the same as controlling the output of the applicator by measuring the output of the applicator. The energy measured and applied at the applicator may be very different from energy measured from the output of the amplifier. For example, Rauch teaches a number of elements that may modify the energy (e.g., the reactance and power level) output from the amplifier before it is applied by an applicator, such as a variable capacitor 30. Rauch, col. 10, lines 20-26.

In sum, Rauch does not show or describe adjusting the amplitude of applied electromagnetic energy in response to the strength of the applied electromagnetic energy as recited by all of the pending claims.

In order to anticipate, a reference must teach every aspect of the claimed invention either explicitly or impliedly. MPEP §706.02. Since Rauch does not show at least the feature of adjusting the amplitude of the produced electromagnetic energy based on the strength of the applied electromagnetic energy, Rauch cannot anticipate the pending claims. The applicants respectfully request withdrawal of the 35 U.S.C. §102(b) rejection of claims 1, 5-7, 29, 31, 50, 51, 54 and 55.

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Claim Rejections – 35 U.S.C. § 103(a)*Claims 2-4, 8, 9, 16, 30, 32, 33, 52 and 53*

Claims 2-4, 8, 9, 16, 30, 32, 33, 52 and 53 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Rauch. According to the Office Action:

“Rauch et al. discloses the invention substantially as claimed, however, the detector diode is not germanium per se. However, absent and [sic] teaching of critically or unexpected result for using one type of detector over another, it would have been obvious to those having ordinary skill in the art at the time of the invention to have substituted alternative field strength detectors in the Rauch meter as an obvious substitution of known equivalents.” Office Action of February 9, 2005, page 2-3.

Applicants respectfully disagree.

As described above, Rauch does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy, as recited by independent claims 1, 29 and 50, from which claims 2-4, 8, 9, 16, 30, 32, 33, 52 and 53 depend.

Further, even the combination of Rauch with a germanium detector diode (which the Office Action alleges would be obvious to one of skill in the art) does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy. Thus, the Office Action has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claims 2-4, 8, 9, 16, 30, 32, 33, 52 and 53 under 35 U.S.C. §103(a) over Rauch cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 2-4, 8, 9, 16, 30, 32, 33, 52 and 53.

Claim 3 and 4

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The Office Action specifically rejected claims 3 and 4 under 35 U.S.C. § 103(a) as being allegedly obvious over Rauch. According to the Office Action: "...displays and indicators are notorious to the art and lack patentable moment, as any substitution for the meter display of Rauch would be a matter of design choice." Office Action of February 9, 2005, page 3.

Applicants respectfully disagree.

As described above, Rauch does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy, as recited by independent claims 1, from which claims 3 and 4 depend.

Further, even the combination of Rauch with displays or indicators (which the Office Action alleges would be obvious to one of skill in the art) does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy. Thus, the Office Action has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claims rejection of claims 3 and 4 under 35 U.S.C. §103(a) over Rauch cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 3 and 4.

Claim 16

The Office Action specifically rejected claim 16 under 35 U.S.C. § 103(a) as being allegedly obvious over Rauch. According to the Office Action: "...although the power source is not clearly a 'battery powered' one in Rauch et al., the incorporation of such in order to make the device usable for ambulatory purposes would have been an obvious design modification to effect portability." Office Action of February 9, 2005, page 3.

Applicants respectfully disagree.

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As described above, Rauch does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy, as recited by independent claims 1, from which claim 16 depends.

Further, even the combination of Rauch with battery power (which the Office Action alleges would be obvious to one of skill in the art) does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy. Thus, the Office Action has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claims rejection of claim 16 under 35 U.S.C. §103(a) over Rauch cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claim 16.

Claims 8, 9, and the like

The Office Action specifically rejected "8, 9, and the like" under 35 U.S.C. § 103(a) as being allegedly obvious over Rauch. According to the Office Action: "...although the feedback loop in Rauch et al. modifies that output rather than turning it off or on when abnormally high and low signals are detected, it would have been a matter of design choice to have chosen to shut the stimulation down instead of adjust the level." Office Action of February 9, 2005, page 3.

Applicants respectfully disagree.

As described above, Rauch does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy, as recited by independent claims 1, from which claims 8 and 9 depend.

Further, even the combination of Rauch with battery power (which the Office Action alleges would be obvious to one of skill in the art) does not teach adjusting the amplitude of *applied*

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electromagnetic energy in response to the strength of the *applied* electromagnetic energy. Thus, the Office Action has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claims rejection of claim "8, 9, and the like" and under 35 U.S.C. §103(a) over Rauch cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims "8, 9, and the like".

Claims 10-15

The Office Action specifically rejected claims 10-15 under 35 U.S.C. § 103(a) as being allegedly obvious over Rauch, in view of U.S. Patent No. 4,619,264 to Singh ("Singh"). According to the Office Action:

"...Rauch et al. discloses the invention substantially as claimed, however, there is no 'proximity sensor' taught. It is apparent from applicants disclosure that this feature is merely a leads off type of detector that indicates patient contact. That being said, the concept of leads off (or applicators off) detection is notorious in the electrical therapy arts. As such, incorporating a leads off detector in the Rauch et al device, as for example is taught by Singh, which has an LED to indicate an open circuit between patient and applicator, would have been obvious to those skilled in the art to enable a visual indication of proper applicator contact." Office Action of February 9, 2005, page 3.

Applicants respectfully disagree.

As described above, Rauch does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy, as recited by independent claims 1, from which claims 10-15 depend.

Further, the combination of Rauch with Singh does not cure this deficiency, since Singh also does not teach adjusting the amplitude of *applied* electromagnetic energy in response to the strength of the *applied* electromagnetic energy. Thus, the Office Action has failed to set forth a *prima facie*

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case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claims rejection of claims 10-15 under 35 U.S.C. §103(a) over Rauch in view of Singh cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 10-15.

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CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal form is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing 425282000201. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: May 5, 2005

Respectfully submitted,

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